CLAIMS

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A welding power supply having a start control, comprising:

a source of welding power, having at least one power control input, and disposed to provide welding power to an arc;

a wire feeder, having a feeder control input, and disposed to supply wire to the arc; and

a controller, having a wire feed control output connected to the feeder control input, and further having a power source control output, connected to the power control input, and further having a wire feed delay module, having as an input a user trigger signal, and having as an output the wire feed control output and the power source control output.

2. The welding power supply of claim 1, wherein the wire feed delay module provides a wire feed delay of 20 milliseconds.

3. The welding power supply of claim 1, wherein the welding power is provided to the arc through the wire feeder.

4. The welding power supply of claim 1, wherein the controller further includes a pulse module, which provides the wire feed speed output and the power control output for MIG welding, after the start of the operation of the wire feed delay module.

5. The welding power supply of claim 1, wherein the controller further includes a pulse module, which provides the wire feed speed output and the power control output for pulse welding, after the start of the operation of the wire feed delay module.

6. The welding power supply of claim 5, wherein the controller further includes a CC module, which provides the wire feed speed output and the

power control output, after the start of the operation of the wire feed delay module, and before the operation of the pulse module.

7. The welding power supply of claim 6, wherein the controller further includes a CV module, which provides the wire feed speed output and the power control output after the operation of the CC module, and before the operation of the pulse module.

8. The welding power supply of claim 4, wherein the controller further includes a run-in module, which provides the wire feed speed output and the power control output after the start of the operation of the delay module, and before the operation of the pulse module.

9. The welding power supply of claim 1, wherein the wire feed delay module includes a feedback circuit input indicative of the presence or absence of an output open circuit, and terminate the operation of the wire feed delay module in response to an open circuit.

10. A welding power supply having a start control, comprising:

means for providing welding power to an arc in response to at least one power control input;

means for feeding wire to the arc in response to a feeder control input; and

means for controlling the means for feeding wire and the means for providing power, connected to the feeder control input and the power control input, and having a means for delaying the feeding of wire and providing output power in response to a user trigger signal.

11. The welding power supply of claim 10, wherein the delay module provides a delay of 20 milliseconds.

12. The welding power supply of claim 10, wherein the welding power is provided to the arc through the means for feeding.

13. The welding power supply of claim 12, wherein the means for controlling further includes a means for providing MIG control after the start of the operation of the means for delaying.

14. The welding power supply of claim 12, wherein the means for controlling further includes a means for providing pulse control after the start of the operation of the means for delaying.

15. The welding power supply of claim 14, wherein the means for controlling further includes a means for providing CC control after the start of the operation of the means for delaying, and before the operation of the means for providing pulse control.

16. The welding power supply of claim 15, wherein the means for controlling further includes a means for providing CV control after the operation of the means for providing CC control, and before the operation of the means for providing pulse control.

17. The welding power supply of claim 16, wherein the means for controlling further includes a means for providing run-in control after the start of the operation of the means for delaying, and before the operation of the means for providing pulse control.

18. The welding power supply of claim 11, wherein the means for delaying includes means for terminating the operation of the means for delaying in response to an open circuit.

19. A method of providing welding power with a start control, comprising:

sensing a user trigger signal indicating a desire to start the welding process;

upon the sensing, delaying feeding wire to an arc;

upon the sensing, providing power to the arc; and

after delaying, feeding wire to the arc.

20. The method of claim 19, wherein the delay is 20 milliseconds.

21. The method claim 19, wherein the welding power is provided to the arc through the wire feeder.

22. The method of claim 19, including providing pulse power after the start of the delay.

23. The method of claim 22, further providing CC power after the start of the delay and before providing pulse power.

24. The method of claim 23, further providing CV power after providing CC power and before providing pulse power.

25. The method of claim 22, further comprising feeding wire at a run in speed after the start of the delay and before providing pulse power.

26. The method of claim 19, wherein the delay is terminated when an open circuit at the arc is sensed.

27. The method of claim 19, including providing MIG power after the start of the delay.